

WHAT IS CLAIMED IS:

1. A telephone-controlled home appliance system comprising:

a plurality of telephone jacks commonly connected to a same telephone line, said telephone jacks receiving ringing signals transmitted from a central office;

a plurality of home appliances respectively connected to said telephone jacks;

a microcomputer installed in each of said home appliances, each of said microprocessors configured such that when the number of the ringing signals received through a corresponding one of said telephone jacks connected with a corresponding one of said home appliances is equal to a predetermined reference value, the microprocessor outputs an off-hook control signal to set a call signal line connected with the corresponding telephone jack to an off-hook mode; and

a telephone controller installed in each of said home appliances for modulating said ringing signals received through said corresponding telephone jack into pulse signals, a number of said pulse signals counted by said microcomputer and setting said call signal line connected with said corresponding telephone jack to said off-hook mode in response to said off-hook control signal from said microcomputer.

2. The telephone-controlled home appliance system according to claim 1, wherein said telephone controller comprises:

a ringing signal modulator that modulates said ringing signals received through said corresponding telephone jack into said pulse signals and outputs the modulated pulse signals to said microcomputer; and

a hook switch circuit that sets said call signal line connected with said corresponding telephone jack to said off-hook mode in response to said off-hook control signal from said microcomputer.

3. The telephone-controlled home appliance system as set according to claim 2, wherein said ringing signal modulator comprises:

a clipper that clips each of said ringing signals received through said corresponding telephone jack if said ringing signal is above a predetermined threshold level; and

a photocoupler that applies an output signal from said clipper to said microcomputer.

4. The telephone-controlled home appliance system according to claim 3, wherein said clipper includes a pair of Zener diodes connected in series.

5. The telephone-controlled home appliance system according to claim 2, wherein said microcomputer is configured to count the number of rising edges of said pulse signals from said ringing signal modulator and output said off-hook control signal when the counted number has reached said predetermined reference value.

6. The telephone-controlled home appliance system according to claim 5, wherein said microcomputer is configured to count the number of rising edges after lapse of a predetermined period of time from the reception of each of said pulse signals from said ringing signal modulator.

7. The telephone-controlled home appliance system according to claim 2, wherein said hook switch circuit includes a transistor that is turned ON in response to said off-hook control signal from said microcomputer to apply a supply voltage to a relay connected to said call signal line.

8. The telephone-controlled home appliance system according to claim 1, further comprising an automatic answering unit that receives the ringing signals transmitted from said central office and, if the number of the received ringing signals is equal to a second predetermined reference value, automatically entering a call connection state to perform an automatic answering operation.

9. The telephone-controlled home appliance system according to claim 8, wherein said microcomputer is configured, when a pulse signal is not received from said telephone controller within a predetermined period of time after the number of said pulse signals from said telephone controller has reached said second predetermined reference value, to recognize that said automatic answering unit is in operation and to output said off-hook control signal to set said call signal line connected with said corresponding telephone jack to said off-hook mode.

10. The telephone-controlled home appliance system as set forth in claim 1, wherein said home appliances are each controlled according to a dual-tone multifrequency (DTMF) signal, said DTMF signal being received through said

corresponding telephone jack when said call signal line is set to said off-hook mode.

11. A method for controlling a telephone-controlled home appliance system, the method comprising:

receiving ringing signals from a central office and modulating the received ringing signals into pulse signals;

counting the number of the modulated pulse signals and setting at least one call signal line to an off-hook mode if the counted number of modulated pulse signals has reached a predetermined reference value; and

receiving a call signal from a calling party via the central office when the call signal line is set to the off-hook mode and controlling at least one home appliance connected with the call signal line in response to the received call signal.

12. The method as set forth in claim 11, wherein the counting comprises:

counting the number of rising edges of the modulated pulse signals; and

setting the call signal line to the off-hook mode if the number of rising edges counted is equal to the predetermined reference value.

13. The method as set forth in claim 11, wherein the counting comprises:

setting an automatic answering unit to a call connection mode earlier than the home appliance if the counted number has reached a second predetermined reference value and setting the home appliance to the call connection mode after the automatic answering unit is operated; and

determining whether the home appliance receives a DTMF signal transmitted from the calling party during a predetermined call connection hold time after being set to the call connection mode.

14. The method as set forth in claim 13, wherein of the setting comprises:

counting a time elapsed since the automatic answering unit is operated; and

determining whether the elapsed time has reached the predetermined call connection hold time, and performing the determining if the elapsed time has not reached said predetermined call connection hold time, and, if the elapsed time has reached the predetermined call connection hold time, outputting an on-hook control signal to release the call connection mode of the home appliance.